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INTERSTATE COMMERCE COMMISSION.

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE BALTIMORE & OHIO RAILROAD, NEAR IRVING, W. VA.,
MAY 22, 1917.

JULY 6, 1917.

To the Commission:

On May 22, 1917, at about 12.03 p. m., there was a head-end collision between a freight train and a wrecking train, near Irving, between Wallace and Dola, W. Va., on the West Virginia Short Line subdivision, Monongah division, of the Baltimore & Ohio Railroad, resulting in the death of one employee and the injury of four employees.

As a result of the investigation as to the cause and nature of this accident, I beg to submit the following report:

That part of the West Virginia Short Line subdivision extending from Lumberport to Hartzel, W. Va., is a single-track line running approximately east and west; on account of certain operating conditions, the direction of train operation as shown by the time-table is just the reverse of geographical directions, trains operated from Hartzel toward Lumberport being considered westward trains, and trains operated in the opposite direction being considered eastward trains. In this report all reference to directions is made in accordance with the directions used by the railroad company for the operation of its trains. Over this line trains are operated by the telephone dispatching system, and in addition an absolute block at open telephone stations is maintained behind passenger trains.

There are two daily scheduled passenger trains in each direction over this line, and six scheduled freight trains in each direction, the average train movement over the line being 10 or 12 trains in each direction each day. Hartzel and Lumberport, 14 miles apart, are telephone offices, open day and night, the dispatcher being located at Lumberport; there are two intermediate day offices, Rinehart, 1.5 miles from Hartzel, and Dola, 8.2 miles from Hartzel. Telephone booths are provided at other passing sidings, at which train crews may communicate with the dispatcher for the purpose of securing orders. Irving is located 3.3 miles from Rinehart, and 3.4 miles from Dola: at Irving there is a water tank, a passing siding and a telephone booth.

In this vicinity the grade is slightly ascending for eastward trains, being 0.184 per cent from a point west of the scene of the accident to a point east of the water tank at Irving. The track in this vicinity is very crooked; approaching Irving from Brown, a station a mile to the west, there is a curve of 8 degrees 50 minutes toward the right.

followed by a tangent 739 feet in length: then there is a 7-degree curve to the left 579 feet long, the point of collision being at approximately the middle of this 7-degree curve. Proceeding farther eastward, the track curves toward the left nearly as far as the water tank at Irving, there being a 30-minute curve 735 feet in length, and a 2-degree 30-minute curve 895 feet in length. The collision occurred in a side-hill cut, the hill being on the inside of the curve. From the approaching trains the view of the track at the scene of the accident was restricted to a distance of approximately 400 feet. At the point of accident the track was laid with 100-pound rails, 33 feet long, with about 18 oak or treated ties per rail, tie-plated and single-spiked, with about 12 inches of granulated slag and cinder ballast below the bottom of the ties. At the time of the collision the weather was clear.

The trains involved in this collision were a wrecking train, extra 2030, with Conductor Wells, Engineman Kinkaid, and Pilot Hamilton in charge, and westward second-class freight train No. 99, with Conductor Greathouse and Engineman Holt in charge.

During the night of May 21, the Benwood wreck train was called to clear up a derailment, due to a pulled-out drawbar, about halfway between Irving and Dola near bridge 418. As the crew in charge of this train was a Wheeling division crew and not familiar with the track west of Hartzel, no Monongah division crew being available at Hartzel, Engineman Hamilton, a Wheeling division man who was familiar with the road in this vicinity, was assigned to pilot the train: it left Hartzel at 5.30 a. m., and at Irving Flagman Harbison was left with written instructions from Conductor Wells to "hold all trains until extra 2030 arrives."

Extra 2030 proceeded to the scene of derailment under running orders to that point, cleared the wreckage from the track, reported the track clear shortly after 9 o'clock, and proceeded to Dola without running orders, protected only by an order received from the dispatcher by telephone directing all eastbound trains to wait at Dola until 10 o'clock: the wreck train took siding at that point to allow westbound passenger train No. 37 to pass.

After getting into clear at Dola, Conductor Wells of extra 2030 sent a message to Flagman Harbison at Irving, in care of the engineman of train No. 37, directing him to come to Dola on train No. 37. In the meantime, also, Flagman Harbison, listening on the phone at Irving, had learned that the main track was reported clear and that his conductor wanted him to go to Dola on No. 37. He flagged train No. 37, informed the engineman what his flagging instructions were, and was then advised by the engineman that he held a message directing him to go to Dola on train No. 37. Flagman Harbison proceeded to Dola as instructed by his conductor, train No. 37 arriving at that point at 11.36 a. m.

Up to this point the statements of all employees involved agree in all essential particulars, but from this point on the account of what actually occurred leading up to the collision between extra 2030 and train No. 99 is clouded and obscured by conflicting statements and evidence.

The dispatcher's train sheet indicates that train No. 37 left Dola at 11.37, while the operator's block record indicates that it did not leave until 11.40.

Conductor Wells states that before the arrival of train No. 37 at Dola he had decided to send his flagman back to Irving on a light engine, No. 1814, which was then in the siding at Dola waiting for No. 37, and he had written out a second set of instructions for Flagman Harbison directing him to flag all trains and notify them to look out for engine 2030 handling wreck train a short distance east of bridge 418. When No. 37 arrived he assisted the operator in loading some heavy express, and then after 37 had departed he went over to the wreck train standing on the siding, found the flagman in the bunk car preparing to wash for dinner, told him he would not have time to eat then, directed him to ride engine 1814 back to Irving, and gave him the second set of written instructions. He stated that he then went back to the office and received instructions from the dispatcher through the operator to flag to Irving, allow train No. 99 and the train involved in the derailment, of which engine 1814 was a part, to proceed, and then return to the scene of the derailment for the purpose of completing the work of picking up the derailed cars. He stated he then wrote a third order to the flagman, directing him to go to Irving and hold all trains until extra 2030 arrived there. He wrote these instructions at the telephone booth just outside the office, went across the track and met Flagman Harbison on the ground just as he got off from the rear end of the wreck train, gave him these instructions and told him what they were, although neither one of them read these third instructions aloud. Conductor Wells stated the flagman took the third instructions, climbed on engine 1814, and that engine then departed.

Flagman Harbison stated that upon his arrival at Dola he got off the train on the side toward the wreck train and opposite from the station, went into one of the wreck-train cars and then went down to engine 2030 to call the engine crew to dinner. This was just as train 37 was pulling out and he rode down on the steps of one of the cars. He returned to the bunk car and had just washed or was preparing to wash when the conductor came in and told him that he would not have time to eat then, but would have to go back to Irving to flag, notifying all trains to look out for extra 2030 just east of bridge 418; Conductor Wells also handed him the second written instructions, which were to that effect. Flagman Harbison stated he then picked up his coat and flag, went through the dining car and got a

sandwich, got off at the rear end of the wreck train, climbed on engine 1814, and departed without seeing Conductor Wells again or receiving any further instructions from him. He positively denied receiving the third written instructions which Conductor Wells claims were given him.

No one else was present in the bunk car when the second written instructions were given to Flagman Harbison by Conductor Wells, and no one overheard any later conversation between them or saw them talking together after Flagman Harbison left the wreck train to get onto the light engine. Conductor Willis, of the light engine, was at that time facing the station sitting on the tender of engine 1814, headed west, and he stated he saw Flagman Harbison on the ground opposite the rear of the wreck train coming toward the light engine, but Conductor Wells was not with him or anywhere in sight at that time.

For the greater part of the time while the wrecking train was at Dola, Engineman Kinkaid and Pilot Hamilton were sitting on some rolls of wire on the station platform near the telephone booth, and they overheard part of the conversation between Conductor Wells, Operator Morris, and the dispatcher. Pilot Hamilton stated that when the second instructions to the flagman were being written out Conductor Wells asked him the number of the bridge near which the derailment occurred, and both the pilot and engineman stated that although they did not read these second instructions they knew what they were. These instructions were prepared before the arrival of train No. 37. Later, after further conversation with either the operator or the dispatcher, the conductor said that the wreck train would follow the light engine to Irving, release the freight trains there, and then return to the point of derailment, and the third set of instructions for the flagman were prepared. Neither the engineman nor the pilot read these third instructions, but both stated they saw Conductor Wells walk across the track, enter one of the wreck-train cars, and a moment later the flagman came out. Pilot Hamilton said that twice afterwards he asked Conductor Wells what instructions Flagman Harbison held, and both times he was told that Flagman Harbison had been instructed to hold everything until extra 2030 arrived at Irving. Engineman Kinkaid corroborated this.

One of the members of the wrecking crew stated that Flagman Harbison came into the dining car and got a sandwich—several of them saw him get the sandwich—and he then passed through the car, followed by the conductor, who made some remark about going to Irving to flag; the flagman passed out the rear end of the car, and that was the last he saw of him. He did not remember just what was said about flagging, but was sure the conductor followed the flagman through the car.

Operator Morris, who was on duty at Dola, stated that he was instructed by the dispatcher to direct Conductor Wells to place a flagman on engine 1814, go to Irving and release train 99, then come back to the scene of the derailment and complete his work. Dispatcher Kelley denied that he gave any such instructions, but stated that the operator informed him Conductor Wells was going to send a flagman to Irving on engine 1814; he said, "All right, but tell him not to delay No. 99," or words to that effect. When questioned during the investigation, Dispatcher Kelley stated he could have held the wreck train at Dola for train No. 99 if he had considered it necessary or desirable to do so. But engine 1814 had a meet order with No. 99 at Irving, and he thought that by following that engine under the protection of a flag the wreck train might save some time in getting back to work at the scene of the derailment.

The light engine departed from Dola at 11.42 a. m. and upon arrival at Irving Flagman Harbison climbed on engine 2559 of train No. 99 at the water tank; he told Engineman Holt that his instructions were to flag all trains and tell them to look out for engine 2030 handling wreck train a short distance east of bridge 418. Train No. 99, consisting of locomotive, 27 cars, and caboose, then proceeded approximately half a mile to the point where the collision occurred. Engineman Holt stated that his train was running approximately 15 miles per hour when he first saw the wreck train; he immediately applied the brakes in emergency, and his train had nearly stopped when the collision occurred. The point where the wreck train was supposed to be working was approximately a mile and a half farther west.

After the light engine left Dola, the wreck train set out a car, and then followed the light engine toward Irving, holding neither running nor work orders. The train consisted of a dining car, bunk car, tool car, flat car, locomotive 2030 headed west, two flat cars, and a crane car, in the order named. Conductor Wells was riding on the front platform of the dining car in the direction in which the train was moving. He heard train No. 99 whistle and almost at the same time saw the front end of the engine. He stated that he reached down and opened the angle cock on the head end, and then jumped off just before the collision occurred. Engineman Kinkaid stated that he saw train No. 99 just before the collision occurred and applied the brakes in emergency. The speed of the wreck train was variously estimated at from 8 to 15 miles per hour.

In the collision the cook of the wrecking outfit was killed, two employees were seriously injured, and two slightly injured. The dining and bunk cars were telescoped for almost their entire length and were entirely destroyed. Both cars were of wooden construction and the wreckage caught fire, but the fire was soon put out. The truck and front drivers of engine No. 2559 were derailed, the pilot beam was broken and the front end was bent in. There was only

slight damage to the track. The track at this point was cleared by the wrecking outfit involved in the collision.

This accident was caused by conductor, engineman, and pilot of the wreck train attempting to move their train from Dola to Irving without orders and without proper flag or other protection, resulting in train No. 99 leaving Irving before the wreck train arrived.

The investigation disclosed that there was no necessity for the wreck train to go to Irving to release train No. 99. That train was free to leave Irving as soon as engine 1814 reached that point and the meet order was fulfilled, and had the wreck train remained on the siding at Dola for train No. 99, all possibility of the collision would have been averted. According to Dispatcher Kelley's statement, the move to Irving was made by Conductor Wells upon his own initiative, and the dispatcher assumed it was being done to save time; however, Operator Morris understood that the dispatcher directed that movement to be made, and he so informed Conductor Wells. In any event, it is believed that the dispatcher exercised poor judgment, according to his own statement, in acquiescing in such a movement; and Conductor Wells should have arranged with the dispatcher to remain on the siding at Dola when, according to his own and the operator's statements, he was directed by the dispatcher to go to Irving to release No. 99.

In view of the fact that for a period of more than two hours the wreck train lay on the siding at Dola, an open office where an operator was stationed, there was ample time and opportunity for the crew to arrange with the dispatcher for the proper movement of their train. Conductor Wells stated that it was his purpose upon arrival at Irving to communicate with the dispatcher by telephone from the booth located at that point and secure work orders to permit him to complete the work of picking up derailed cars. But it can not be considered good railroad practice—in fact, it is an extremely hazardous practice—for a train to leave an open office, where an operator is on duty, without orders, under flag protection, with the express intention of going to a siding where no operator is located and there ask for work orders direct from the dispatcher. There was no reason in this case why orders should not have been asked for and received at Dola. Had the movement been handled in that manner, if there was not sufficient time to establish a meeting point at Irving, the wreck train would undoubtedly have been held at Dola for train No. 99, and the collision would thereby have been averted.

According to the statement of Conductor Wells, he gave Flagman Harbison three different written flagging orders or instructions during the course of the forenoon; none of them were read aloud by flagman or conductor, and when new instructions were issued the former ones were neither taken away from the flagman nor destroyed. While the flagman carried out the last instructions which he received, accord-

ing to his statement, the misunderstanding and the collision might have been averted if the flagging instructions when issued had been read aloud and the instructions which were superseded taken up.

The flagman stated positively that he received only two sets of written instructions; these he still had in his possession at the time of the investigation. He displayed them and they were identified by Conductor Wells as the first and second instructions issued. Flagman Harbison denied absolutely that he received the third instructions, and stated that he had no knowledge or intimation whatever that extra 2030 was going to follow engine 1814 to Irving. If his statement is correct, Flagman Harbison properly performed his flagging duties under the instructions held by him, and no criticism attaches to him. On the other hand, however, if he did receive the third instructions, as claimed by Conductor Wells, Flagman Harbison failed to carry out those instructions and failed to protect his train as directed.

Conductor Wells is equally positive that the third instructions, namely, to hold all trains at Irving, were given to the flagman; however, if his statement in this respect is not correct Conductor Wells himself failed to provide proper flag protection for the intended movement of the wrecking train.

There is a discrepancy of three minutes in the record of the departure of train No. 37 from Dola, the dispatcher's train sheet showing the time of departure at 11.37 and the operator's block sheet showing 11.40; neither the dispatcher nor the operator was able to explain or in any way reconcile this difference. Engine 1814 departed at 11.42; therefore, on the basis of the dispatcher's record, there was an interval of five minutes between the departure of train 37 and engine 1814, which probably would have been sufficient to enable Conductor Wells to communicate with the dispatcher and issue the third set of flagging instructions, as claimed by him; but the operator's records show an interval of only two minutes between the departure of train 37 and engine 1814, which probably would not have been long enough to permit Conductor Wells to do all that he stated was done during that time.

Although everyone concerned, or everyone who might have any knowledge, however remotely, was interviewed, it was not possible to verify or discredit the statements of either flagman or conductor where they are at variance in their essential features. There appears to be no reasonable explanation of failure of the flagman to obey the third instructions if he received them, or of failure of the conductor to provide the instructions which were necessary to protect the intended movement of his train. The matter therefore resolves itself into a question of veracity between the two men, concerning which no conclusion can be drawn.

In any event, in view of the fact that the proposed movement was to be made without orders, both Engineman Kinkaid and Pilot Ham-



ilton, particularly the latter, are at fault for their failure to confer with the conductor, as well as to see the written instructions given to the flagman and to know positively what instructions he held. Both of them were at the station when the flagging instructions were prepared, and had either of them taken any active interest in the matter the misunderstanding would undoubtedly have been prevented and the wreck averted.

While it had no direct bearing upon this accident, the investigation disclosed very lax methods in examining and instructing men when employed on the Wheeling division of the Baltimore & Ohio Railroad. Men were employed for train service by a trainmaster's clerk or transportation clerk who has himself never been examined on the book of rules; the only examination given was very perfunctory, consisting merely of filling in answers to questions contained in a printed form; these answers were supposed to be checked over by this clerk and to be supplemented by such explanations or instructions as he might give. At the time of the investigation of this accident there was no rules examiner continuously employed on that division, although arrangements were at that time being made for such a position; on the Monongah division an examiner is continuously employed.

All of the men involved in this accident were experienced men; none of them had been on duty for excessive periods, and all of them had had proper rest periods before going on duty.

Conductor Wells had been employed by the Baltimore & Ohio Railroad Co. for about 10 years, 5 years as a brakeman and 5 years as a conductor.

Flagman Harbison had had several years' experience on this line as a fireman; he had been out of railroad service since 1910 and had been employed as a brakeman only five or six weeks prior to the date of this accident. He had never been examined on the book of rules at present in effect on the Baltimore & Ohio Railroad.

Engineman Kinkaid and Pilot Hamilton entered the service as firemen in 1906 and 1907, respectively, and both were promoted to enginemen in 1910.

In this case the crew in charge of the wreck train, composed of experienced men, did not avail themselves of even the ordinary methods and safeguards provided by the railroad company for the operation of trains. No great emergency existed at this time, as the track had been cleared for the passage of trains and all that remained to be done was to pick up two cars lying beside the track. And when men in charge of a train resort to such ill-advised and haphazard practices as were followed in this instance, accidents of this kind may be expected to occur.

Respectfully submitted.

H. W. BELNAP,
Chief Division of Safety.